BRUHAT BANGALORE MAHANAGARA PALIKE

Yelahanka Zone, Electrical Division

Name of Work:- Detailed Estimate for Upgradation of Energy efficient Illumination and ornamental poles in Ward No 02 & 04 Parks in Yelahanka Assembly Constituency.

Est Cost Rs. 15000000.00

R Page & SL No		Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
[P.No-6 I.No-2.30]		Eartwork excavation for foundation of buildings,water supply,sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in ordinary soil not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches,stacking the excavated soil clear from edges of excavation with lead upto 50m. after breaking of clods complete as per	Cum							
	Basic rate	299.00		56	1.00	0.70	1.65	64.68		
	Add 6% A.W	17.94		80	0.50	0.50	1.25	25.00		
	Total	316.94				Total Qnty		89.68	316.94	28423.18
(P.NO-16, I No-4.28)		KSRB 4-6.1: Provding and removing centering, shuttering, strutting, propping etc., and removal of form work for foundations, footings, bases of columns for mass concrete including cost of all materials, labour complete as per specifications	Sqmtrs							
	Basic rate	258.00		56	2.00	1.40	1.90	297.92		
	Add 6% A.W	15.48		80	0.60	0.60	1.25	36.00		
	Total	273.48						333.92	273.48	91320.44
[P.No-12, I.No-4.3]		KSRRB .:Providing and laying in position plain cement concrete of nominal mix 1:4:8 using 40 mm and down size graded granite metal machine mixed,concrete laid in layers not exceeding 15cm thick well compacted,in foundation and plinth,including cost of all materials labour HOM machinaries curing	Cum							
	Basic rate = 5659.00	5102.00								
	Diifrence Cement cost	199.69								
	Sub Total	5301.69								
	Add 6% A.W	318.10								
	Total	5619.79								
				56	1.00	0.70	0.05	1.96		
				80	0.30	0.30	0.05	0.36		
						Total Qnty		2.32	5619.79	13037.92
4 257 / 34.17		Providing T.M.T steel reinforcement for R.C.C work including straightening,cutting ,bending ,hooking,placing in position,lapping and/or welding wherever required,tieing with binding wire,anchoring to the adjoining members wherever necessary as per design (laps,hooks and wastage shall not be measured and paid) including cost of all materials ,labour ,HOM og machinaries curing complete as per	Cum							
	Basic rate	78007.00								
	Add 6% A.W	4680.42								
	Total	82687.42								
	12mm dia			56	10.00	3.50	0.89	1744.40		
	12mm dia			80	4.00	1.50	0.89	427.20		
	10mm dia 6 Inches appaart 1+0.7+1+0.7+Lap x0.7=3.5 mtrs			56	19.00	3.50	0.61	2271.64		
	10mm dia 6 Inches appaart 0.3+0.3+0.3+0.3+Lap x0.7=1.35mtrs say			80	15.00	1.35	0.61	988.20		
			Kgs			Total Qty		5431.44	82.68	449071.46

R.Page No / SL No		Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
(P No-14 I No.4.11)	KSRB 4.2.2 : Providing and laying in position reinforced cement concrete of Design Mix M20 with OPC @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.460 cum, with super plasticisers @ 3 liters confirming to IS 9103-1999 reafirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls, return walls, walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks, anchor blocks & plinths etc., including cost of all materials, labour, HOM	Tonnes							
	Basic rate = 5659.00	5659.00								
	Diifrence Cement cost	355.01								
	Sub Total	6014.01								
	Add 6% A.W	360.84								
	Total	6374.85								
				56	1.00	0.70	1.95	76.44		
				80	0.30	0.30	1.25	9.00		
						Total Qty		85.44	6374.85	544667.05
AP Sr 174/ELEC-3.2.1	Supply and transportation of 40W LED Post top lantern made with cast aluminium with decorative opel polycarbonate defuser with IP65 protectin etc, complete with all accessories	Nos	1	31.00				31.00	8500.00	263500.00
13/4.2.4	Fabricating, supplying and erection of ...Mtrs long hot dip **Galvanized Octagonal pole** with BSEN 10025 grade S 355 JO steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet and MCBs as per IS specifications suitable to withstand the wind speed of 47 m/sec for .....Mtrs pole in single section and single joint welded as per IS 9595/IS 10178AWS having dimensions bottom .....mm, top....mm with 3mm thick, suitable base plate and 4Nos of long J bolts along with template and the pole shall be hot dip galvanized in single dipping with not less than 65micron as per ASTM-A123 and 153 etc., (excluding foundation) as per drawing	Nos	1	145.00				145.00	9076.00	1316020.00
16/4.7.2	Supplying, and fixing of Hot dip Galvanized M.S.Bracket suitable for out door luminaries and mounted on Octagonal pole using necessary bolts, nuts etc., complete.Single Arm Bracket with 1500mm Standard 40/50MM dia	Nos	1	145.00				145.00	2112.00	306240.00

Page SL No		Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
	6/12.8.5	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w, nominal CRI >75. Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved /									
			Nos	1	40.00			40.00	9200.00	0.00 368000.00
10	6/12.8.4	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation. Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/ Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with W System Power consumption. LED Efficiency>130lm/w,									
			Nos	1	145.00			145.00	7160.00	1038200.00
11	40/6.4.4	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 4 core 16								0.00
				1	1300.00			1300.00	150.00	195000.00
12	40/6.4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 25	Mtrs							0.00

Page SL.No		Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
				1	2300.00			2300.00	180.00	414000.00
	10/6.4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 35	Mtrs							0.00
				1	300.00			300.00	225.00	67500.00
	41/6.5.1	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required In existing								0.00
				1	1300.00			1300.00	11.88	15444.00
	41/6.5.2	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required In existing trench/duct. 25 sqmm to 75 sqmm	Mtrs							0.00
				1	2600.00			2600.00	15.50	40300.00
	66/6.6.1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs							0.00
				1	3400.00			3400.00	76.00	258400.00
	66/6.6.4	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete.(As per Civil SR KSRB I-2, P-7)Asphalt cutting	Mtrs							0.00
				1	300.00			300.00	113.00	33900.00
	6/2.3.2	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694:confirming to latest	Mtrs							0.00
				1	5600.00			5600.00	20.50	114800.00
)	41/6.9.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than .25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1	Mtrs							0.00
				1	70.00			70.00	335.00	23450.00
)	42/6.10.4	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and	Nos							0.00
				1	8.00			8.00	350.00	2800.00
1	43/6.17.7	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.25 sqmm Long Barrel	Nos							0.00
				1	2650.00			2650.00	20.00	53000.00
22	40/6.2	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40mm dia 2.9mm thick 2.5 mtr long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400mm with a cast iron cover. The earth electrode shall have staggered holes of 12mm dia and the electrode should be covered 150mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection	Nos							0.00
				1	8.00			8.00	4150.00	33200.00
23	40/6.3.10	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.600x600x3mm Copper	Nos							0.00
				8	5.00			40.00	6900.00	276000.00
24	30/5.41.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of	Mtrs							0.00
				1	50.00			50.00	255.00	12750.00

Page SL.No		Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
30/5.42.2		Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc	Sqmm							
				8	35000.00			280000.00	0.35	0.00 98000.00
27/5.14.7		Supplying and fixing Moulded Case Circuit Breaker (MCCB)over the existing wood/panel board using necessary screws,bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault	Nos							
				8	1.00			8.00	6400.00	0.00 51200.00
79/14.5		Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using	Nos							
				1	185.00			1.00	175.00	0.00 175.00
79/14.6		Fixing charges of post top/ Gate/ Garden fitting /LED on the existing CI / GI or any other pipe using required size of reducer, wiring using suitable								
			Nos	1	31.00			31.00	154.00	4774.00
40/6.3.6		Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm Copper strip	Mtrs							
				6	10.00			60.00	505.00	0.00 30300.00
0		Supplying & fixing of retrofit type - LED bulb.....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%. efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical	Nos							
				1.00	56.00			56.00	255.00	0.00 14280.00
31	25/5.7.3	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.63Amps	Nos							
				6	3.00			18.00	227.00	0.00 4086.00
32	87/15.13	Supplying and fixing of Spiral Earth Electrodes as per standard technical specification as per ESCOM.	Each							0.00
				1.00	107.00			107.00	490.60	0.00 52494.20
33	2/42/2.01	Erection of steel supports 9.0 to 10.00 mtr long such as 22.68 kg (50 lbs) Rail, 27.22 kg (60 Lbs) Rail I Beam of sizes 200x100mm, 175x90 mm, 125x100 mm. Fabricates poles tubular poles in pits of 1.8 mtr Depth, Aligning, Refilling with soil and ramming as approved drawing (Releasing of LED Lights=90% of erction Charges Rs334x90%=300.6)	Each	1.00	50.00			50.00	300.60	15030.00

Page SL No		Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
9/14.5		Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires. (Releasing of LED Lights=90% of erction Charges Rs	Each	1.00	50.00			50.00	157.00	7850.00
										0.00
Pwd Sr		Hiring of 35 tons capacity Crane for releasing and refixing of High Mast	Hrs	1.00	20.00			20.00	548.00	10960.00
		Total Rs								**6248173.26**
	AR	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in voltage. It has some features like 1.Remote lighting management.2.Precise lighting turnoff.3.Load ballancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers:	Nos	8	1.00			8.00	51500.00	412000.00
7		Supply and erection of 3 Mtr long Aluminium Pole with 60 watt LED Light made out of extruded alluminium 80x120mm with 3 MM thickness, with attached bent Square curvature at the top with Two nos of Light, Blue colour Strip Light should be conduted along the Pole and Square light on liner side, Grey Colour Powder Coated, strip wattage 20W, pole is mounted on base Plate of 200x200 with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB Cutting of 500mm from the bottom of the pole with 12 inches Height.as per the Drawing enclosed . Model name & Make		1	26.00			26.00	33712.00	876512.00
38		Supply of 3 Mtr Powder Coated Aluminium Pole with 60W Light and strip wattage of 20W, dimension of pole 3mm gage with 80x120mm with Body Colour Grey with Diamond Shaped Curvature suspended from the top bend at 45 deg from the pole. Illumination is from the top fixed inside the Diamond shaped Curvature Strip Light is conduted along with the Pole liner with Blue Light Illumnation. Square base Plate in welded at the bottom of the pole oif 200x200 with required 4 nos foundation Bolts suitable for cable entry hole of 60mm at the bottom of the Pole. MCB Cutting of 500mm from the bottom		1	25.00			25.00	43344.00	1083600.00

Page No		Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
		Fabricating, Supplying and errection of decorative bent type Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to withstand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height perforated pole having colour changing LED Fixture, inside as suitable to the picture. The base plate size of 350mm x 350mm x 18 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed pictures and as per IS	Nos							
				1	56.00			56.00	92500.00	5180000.00
BESCOM SR 18-1913/39.		Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size	Mtrs							
				1	150.00			150.00	848.00	127200.00
		Total Construction Cost								
		Add GST 12%								**13927485.26**
		Miscellaneous & BESCOM Charges								749780.79
		Add 2% for DPR and PMC Charges								22733.95
		Grand Total Rs								300000.00
										15000000.00

IFICATE :-

1. The place was inspected and the work is essential.
2. The provision made in the estimate are adequate and necessary and the work comes in the BBMP limit and is legitimate Charges on the BBMP funds.
3. The estimate is based on KPWD (Ele) S.R.2019-20 , Approved Rates, BESCOM SR 2018-19 & AP State 2019-20.

it. Engineer (Elec)

Asst. Exe.Engineer (Elec)
Sub-Division No.

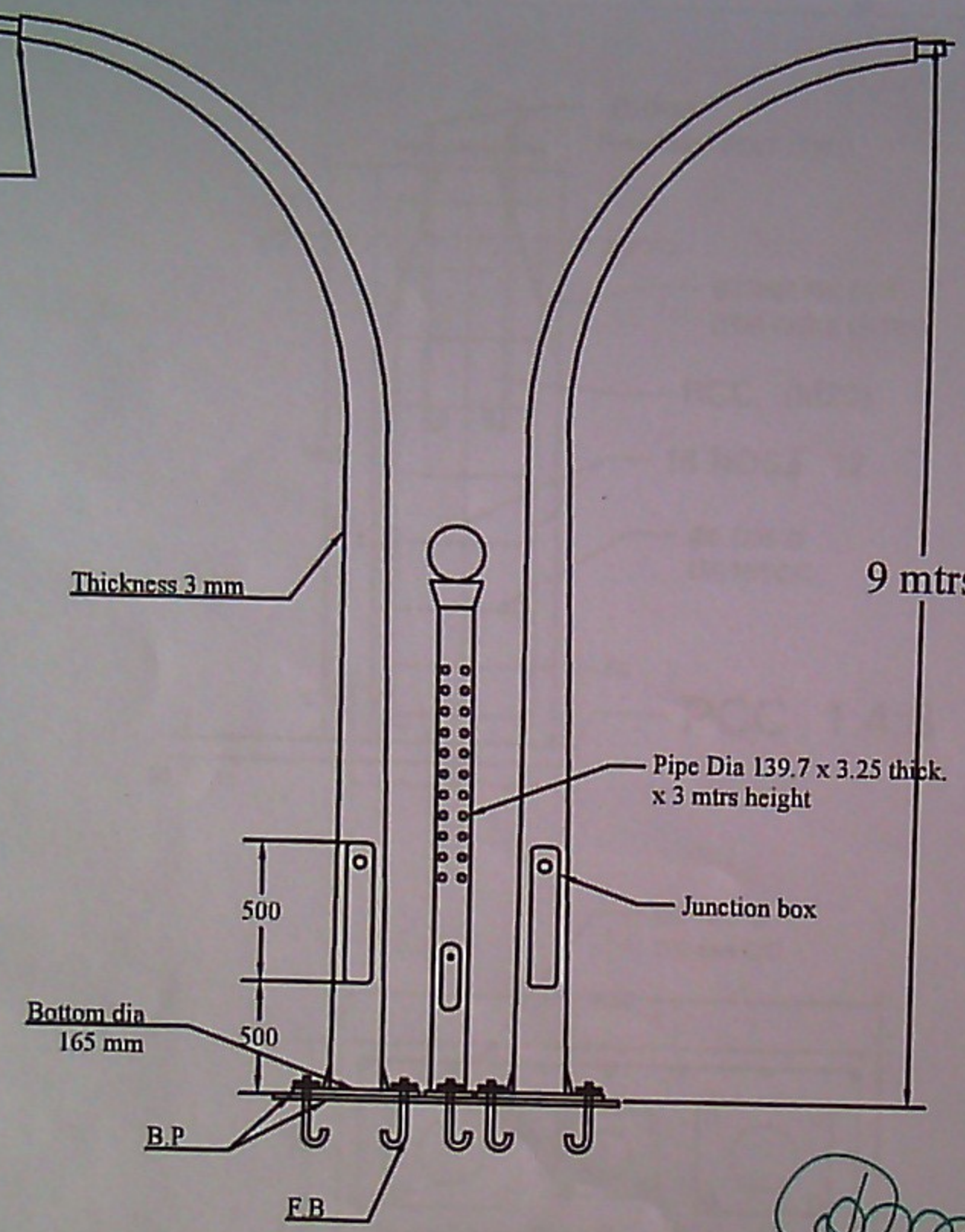
EXECUTIVE ENGINEER (ELEC)
YELAHANKA DIVISION
BRUHAT BANGALORE MAHANAGARA PALIKE

Technical Sanction
Accorded For RS150.00lakhsonly
Head of A/C P3875
CER No: 15 Dt: 28.07.2021

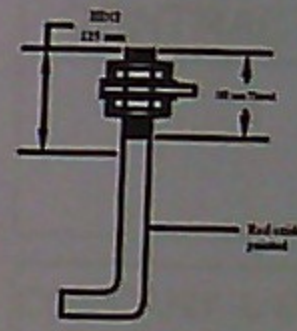
TA CE (YNK)

Administrative Sanction for Rs. 150.00 Lakhs
[Rupees One Crore Fifty lakhs Rupees Only]
is accorded under head P-3075 Special Comprehensive developmental works
Registered as CE No. 19 Subject to conditions contained in enclosed memo No.BBMP/EE(YNK/A.S/12/2021-22 Dt. 19/1/2022

Executive Engineer



Base Plate
850x400x16

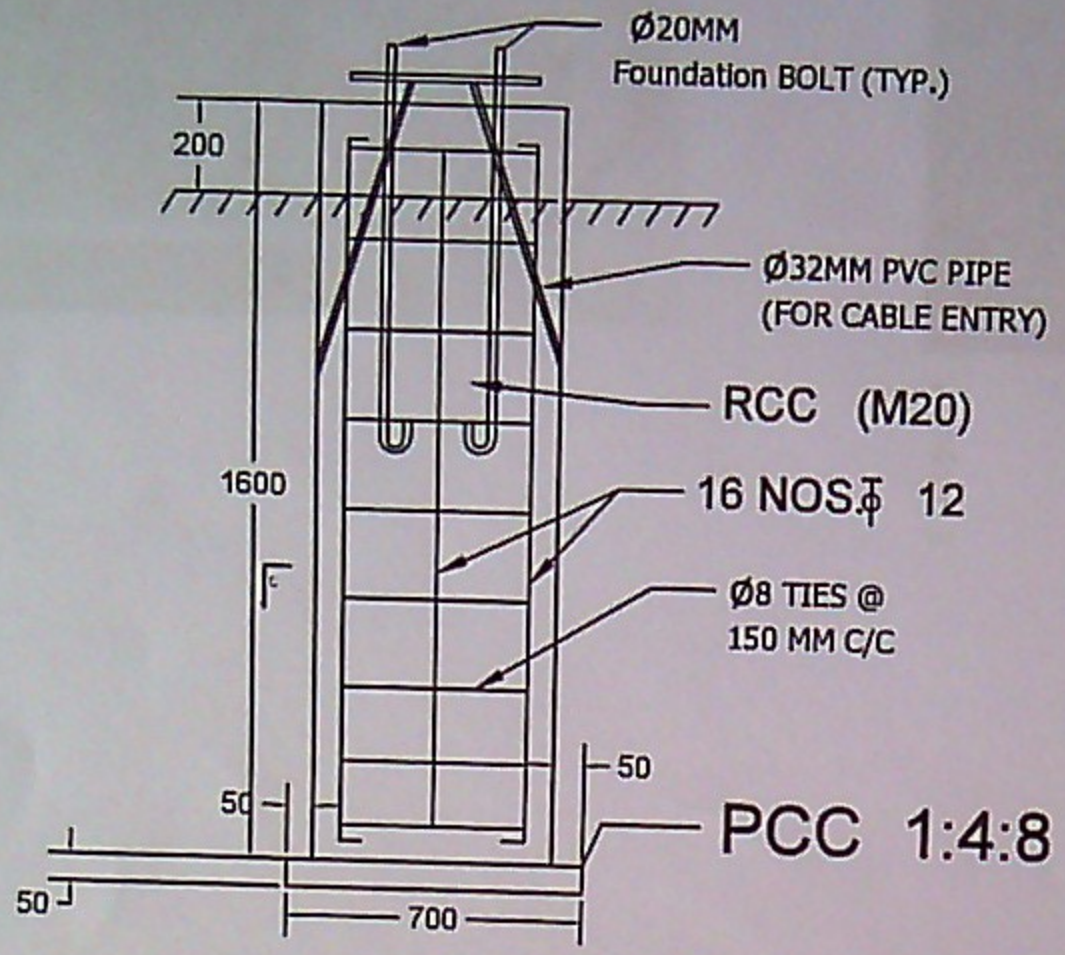


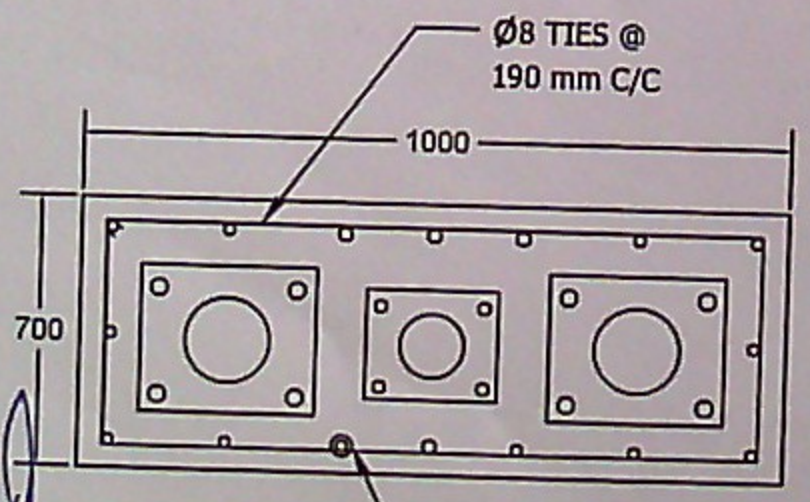
Foundation
Bolt
M25x750

1.All the Dimensions are in mm unless otherwise specified
2.All the material used are MS
3.Hot dip galvanization 70 to 80 microns
4. Color: As per requirement

Asst. Executive Engineer (Elec.)
Yelahanka Sub-Division
Bruhat Bangalore Mahanagara Palike

Manufacturer	Yadav Engineering
Mail ID	
Address	





DATE :12.02.2019	
SCALE :NTS	
DRAWING TITLE : 10 mtr conical pole civil foundation drawing	
CONTRACTOR	
COMPANY & MAIL ID	Yadav Engineering yadavengineering75@gmail.com, info@yadavengineering.com
ADDRESS	23/2,P.M.KEMPAIAH GARDEN,4TH PHASE(NEAR 9TH BTS DEPO),PEENYA INDL. AREA, BANGALORE-560058. 9945095919

Asst. Executive Engineer (Elec.)
Yelahanka Sub-Division
Bruhat Bangalore Mahanagara Palike

ward no 3

ward no 3 & 4

Asst. Executive Engineer (Elec.)
Yelahanka Sub-Division
Bruhat Bangalore Mahanagara Palike

ward no 4

Asst. Executive Engineer (Elec.)
Yelahanka Sub-Division
Bruhat Bangalore Mahanagara Palike